WHAT IS CLAIMED IS:

1. A fluid-film bearing comprising:

(a) a first surface region having a first bearing surface, for attaching to a first machine component;

(b) a second surface region having a second bearing surface, for attaching to a second machine component;

said surface regions designed and configured such that said first surface and said second surface are disposed opposite one another,

said surface regions further designed and configured such that said first surface and said second surface move in a relative motion with respect to one another, and

(c) a fluid disposed between said surfaces,

wherein at least one of said surfaces is a micropore-containing surface having a plurality of micropores, said plurality of micropores disposed so as to effect an equivalent clearance convergence between said surfaces, in a direction of said relative motion, such that said relative motion, acting on said fluid, generates a pressure so as to generate a lifting force between said surfaces.

2. The bearing of claim 1, wherein said micropore-containing surface is parameterized by a width B^* in said direction of said relative motion, and a length L^*, and wherein L^*/B^* exceeds 0.2.

3. The bearing of claim 2, wherein L^*/B^* exceeds 0.3.

4. The bearing of claim 2, wherein L^*/B^* exceeds 0.5.

5. The bearing of claim 2, wherein L^*/B^* exceeds 0.7.

6. The bearing of claim 2, wherein L^*/B^* exceeds 1.0.

7. The bearing of claim 1, wherein said surfaces are nominally parallel.

8. The bearing of claim 2, wherein said surfaces are nominally parallel.

9. The bearing of claim 2, wherein a parameter α defines a ratio of surface area textured with said micropores to a total bearing surface area of said micropore-containing surface, and wherein α is between about 0.2 and about 0.9.

10. The bearing of claim 9, wherein α is between about 0.3 and about 0.8.

11. The bearing of claim 9, wherein α is between about 0.5 and about 0.7.

12. The bearing of claim 1, wherein a parameter S_p defines an area density of said

micropores on said micropore-containing surface, and wherein S_p exceeds about 0.2.

13. The bearing of claim 12, wherein S_p exceeds about 0.4.

14. The bearing of claim 12, wherein S_p exceeds about 0.5.

15. The bearing of claim 1, wherein a parameter h_p is a dimensionless dimple depth, said dimensionless dimple depth defined by:

$$h_p = h_p^*/h_0^*$$

wherein

h_p^* is a characteristic dimple depth of said micropores, and

h_0^* is a minimum clearance between said surfaces,

and wherein h_p exceeds about 0.5.

16. The bearing of claim 15, wherein h_p exceeds about 0.6.

17. The bearing of claim 15, wherein h_p exceeds about 0.75.

18. The bearing of claim 15, wherein said relative motion is bi-directional, and wherein said micropore-containing surface includes a first area and a second area, said first area disposed so as to effect an equivalent clearance convergence between said surfaces in a first direction of said relative motion, and said second area disposed so as to effect an equivalent clearance convergence between said surfaces in a second direction of said relative motion.